

## BACKGROUND

It has been observed that women in academic medicine, including neurology, are generally less productive in terms of publications and less likely to lead clinical trials compared to men. A significant gender gap in academic neurology exists despite the increase in women researchers and clinicians. In 2018, women only made up 25% of full professors in neurology despite representing nearly half of neurology residents and medical school graduates<sup>5</sup>. This disparity is partly attributed to gender biases that hinder women's chances at obtaining funding, authorship, recognition, and leadership roles. Neurology also has one of the largest gender pay gaps among medical fields. To date no one has explored authorship in child neurology.

Child neurology became a recognized board-certified specialty only 55 years ago however significant contributions from physicians across various disciplines such as neurology, psychiatry and obstetrics<sup>3</sup>. Child neurology applications have accepted applications since 2005 and since 2014 the majority of applicants have been female. In other studies it has been found that within neurology publications from 2002 to 2020 women remained in the minority for first, middle and last authors .

## OBJECTIVES

- Explore participation of women in refractory epilepsy treatment clinical trials
- Explore gender discrepancy in medical research in refractory epilepsy treatment
- Discuss strategies to improve gender disparities in Neurology research

## LITERATURE REVIEW

- Literature search performed using the following search criteria “resistant” AND “epilepsy” AND “pediatric”
- Inclusion criteria: randomized control trial published in 2005 or later
  - 2005 first year for ACGME-recognized Child Neurology residency programs.
- 28 articles met criteria
- Gender of authors was identified by name; where they could not be identified, further searches were completed to determine if the name was traditionally male or female
  - Limitation of study: Assumption of gender based on name when pronouns are not listed

## CASE DESCRIPTION

	Women First Author (%)	Not Women First Author
Number of articles	13 (46%)	15 (54%)

Figure 1: Number and present of women as first authors in clinical trials in pediatric refractory epilepsy published since 2005

Total Authors	Female Authors	% Female
6	0	0%
6	2	33%
6	1	17%
7	3	43%
7	3	43%
7	1	14%
8	2	25%
9	0	0%
9	0	0%
10	1	10%
14	3	21%
16	7	44%
16	7	44%
17	10	59%
56	14	25%
Average		25%

Figure 2: Number of female authors on publications with no first female authors based off articles that were clinical trials in pediatric refractory epilepsy published since 2005

ERAS Child Neurology Applicants by Gender					
	2014	2015	2016	2017	2018
Men	498	476	432	331	297
Women	528	510	496	443	391
Unknown	1	1	1	0	1

Figure 3: Adapted AAMC data for child neurology applicants from 2014 to 2018

ERAS Child Neurology Applicants by Gender					
	2019	2020	2021	2022	2023
Men	260	280	444	305	253
Women	360	347	502	376	365
Unknown	0	0	0	1	2

Figure 4: AAMC data for child neurology applicants from 2019 to 2023 by gender

## DISCUSSION

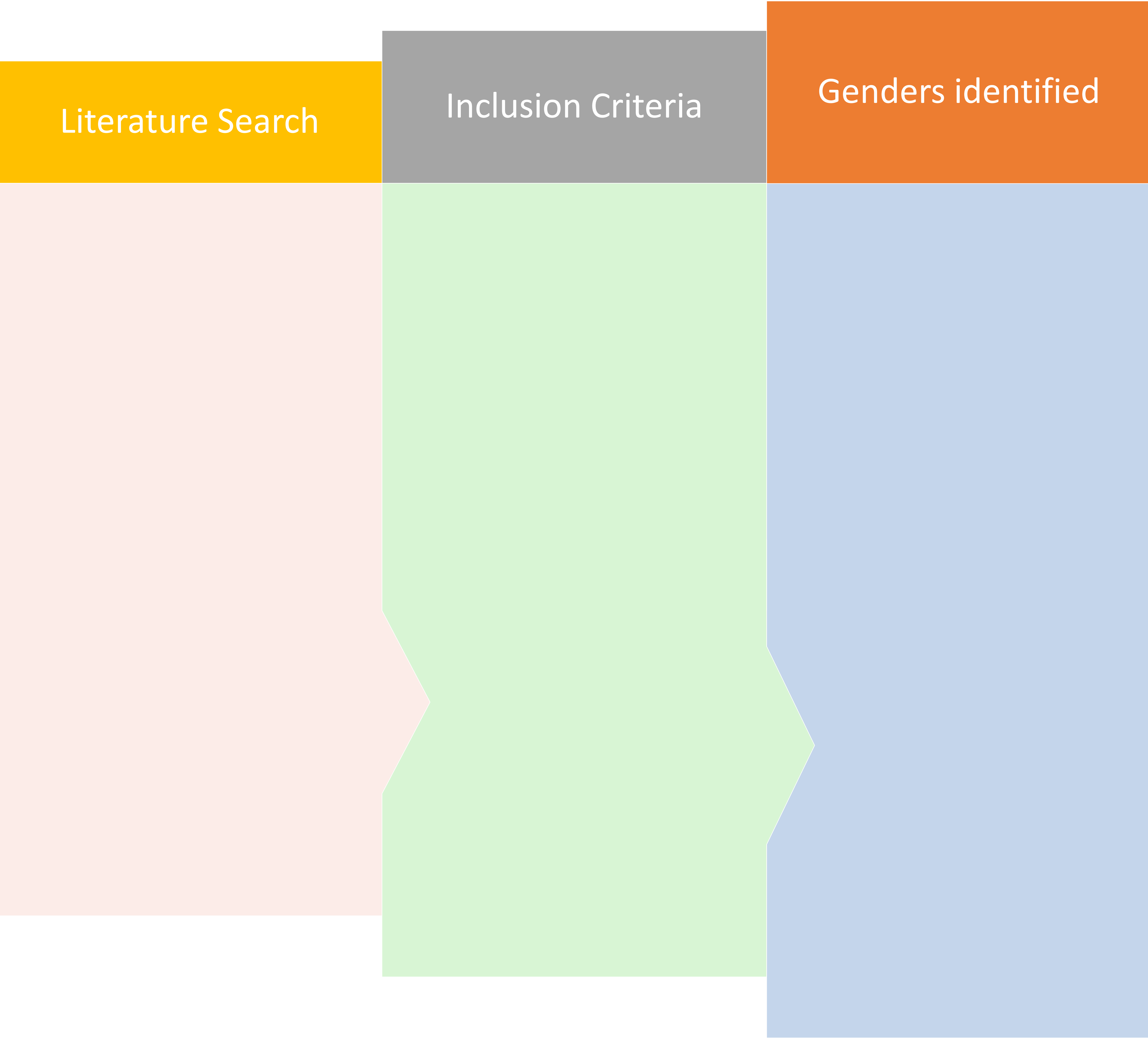
- **Findings:** Although the majority of child neurology applications since 2014 have been female, women first authorship remains below 50%, with female authors being a minority in all but one publication in this study
- **Historical underrepresentation of women:** Only 34.1% of neurology research authors between 1946 and 2020 were female, demonstrating a significant gender gap in the neurology research field<sup>5</sup>
- **Structural challenges:** Women face structural barriers in the workplace, such as low representation on editorial boards (only 15% in top journals) limiting their opportunities for advancement and recognition<sup>2</sup>
- **Existing gender disparities:** The American Academy of Neurology Gender Disparity Task Force in 2017 highlighted continuing gender disparities across leadership roles, conference representation, and senior editorial positions
- **Positive impact of structured interventions:** The CREST Initiative led to an increase in female co-authors or first authors in vascular neurology publications, with none in 2015 compared to five in 2022, demonstrating the potential for structured interventions to improve gender representation<sup>1</sup>
- **Importance of mentorship:** Early career mentorship has been shown to improve long-term outcomes for women in neurology<sup>4</sup>
- **Promotion of diversity and inclusivity:** Female authorship brings diverse perspectives and experiences to fostering research, innovation and comprehensive study<sup>5</sup>
- **Role models and mentors:** Expansion of female role models and mentors in academia can encourage the next generation of women to pursue research and academic careers<sup>4</sup>

## CONCLUSIONS

The underrepresentation of female authors in child neurology is not just an academic concern; it is a systemic issue that reflects the broader cultural and institutional obstacles women face in medicine. Addressing gender disparities in authorship is essential for promoting equity, expanding the diversity of thought, and driving scientific progress. To achieve this, a concerted effort is necessary across academic institutions, journals, funding bodies, and professional societies.

Strategies to ameliorate gender disparities should include mentoring programs for women, equitable representation in leadership roles, transparent and gender-neutral criteria for authorship, and supportive policies that consider the unique challenges faced by women in neurology, such as work-life balance and family responsibilities. As the academic community moves forward, it is imperative to commit to longitudinal monitoring of gender representation in authorship to measure the efficacy of adopted interventions and ensure progress towards true gender parity in child neurology authorship.





What is happening, and why?

Why is this important?

Current Solutions &  
Future Directions

Limitations of Study

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